

What is claimed is:

1. A tray assembly for use with an apparatus adapted to inspect a liquid sample, the tray assembly comprising:

a support tray insertable within an inspection location within the liquid sample inspection apparatus so that a light source of the apparatus illuminates a liquid sample carried on the support tray and a detector of the apparatus receives light from the liquid sample when the support tray is positioned at the inspection location; and

an insert supported within the support tray and having a first surface adapted to receive a first type of liquid carrier and a second surface adapted to receive a second type of liquid carrier different from the first type of liquid carrier.

2. An assembly as defined in claim 1, wherein the first type of liquid carrier comprises a reagent cassette.

3. An assembly as defined in claim 2, wherein the first surface of the insert has a recess shaped to receive a first portion of the reagent cassette.

4. An assembly as defined in claim 3, wherein an end wall of the recess of the first surface of the insert is curved to match a curved end wall of the first portion of the reagent cassette.

5. An assembly as defined in claim 3, wherein one of a boss and an indent is disposed within the recess of the first surface of the insert, and the reagent cassette has the other of the boss and the indent, and wherein the indent receives the boss to correctly position the reagent cassette within the insert and prevent the reagent cassette from sliding out of the insert.

6. An assembly as defined in claim 5, wherein the boss is disposed within the recess of the first surface of the insert.

7. An assembly as defined in claim 3, wherein the insert is adapted such that a second portion of the reagent cassette will extend outwardly beyond a first end of the insert.

8. An assembly as defined in claim 1, wherein the second type of liquid carrier comprises a reagent strip having a plurality of reagent pads disposed thereon.

9. An assembly as defined in claim 8, wherein the second surface of the insert has an elongated channel sized to accommodate the reagent strip.

10. An assembly as defined in claim 9, wherein the second surface of the insert has an end wall closing the elongated channel at a second end of the insert, and wherein a top surface of the end wall is white.

11. An assembly as defined in claim 1, wherein:

the first and the second surfaces of the insert face in opposite directions and the insert also comprises:

first and second opposing ends connecting the first and the second surfaces; and

first and second opposing sides connecting the first and the second surfaces and extending between the opposing ends; and

the support tray includes a top surface having a compartment for receiving the insert and the compartment includes an end wall conforming to the second end of the insert and opposing first and second side walls extending from the end wall and conforming to the first and second opposing sides of the insert.

12. An assembly as defined in claim 11, wherein the first and the second opposing ends of the insert have different shapes.

13. An assembly as defined in claim 12, wherein the shape of the first end of the insert is rectangular and the shape of the second end of the insert is curved.

14. An assembly as defined in claim 1, wherein the support tray includes a top surface having a compartment for receiving the insert and the compartment includes an end wall, and the top surface of the support tray includes a sloped surface extending from a center of the end wall of the compartment, and the first and the second surfaces of the insert include depressions that correspond to the sloped surface of the support tray when the insert is positioned within the compartment.

15. An assembly as defined in claim 1, wherein the support tray includes a top surface having a compartment for receiving the insert and the compartment includes side walls, and the side walls include cut-outs for allowing the sides of the insert to be grasped when the insert is positioned within the compartment.

16. An assembly as defined in claim 1, wherein the support tray includes a top surface having a compartment for receiving the insert and an elongated guide extending from the compartment, and the first and the second surfaces of the insert include elongated guides that correspond to the elongated guide of the support tray when the insert is positioned within the compartment.

17. An assembly as defined in claim 16, wherein the elongated guides comprise grooves.

18. An assembly as defined in claim 16, wherein the insert defines sinks in the elongated guides of the first and the second surfaces.

19. An assembly as defined in claim 1, wherein the support tray includes a top surface having a compartment for receiving the insert and the compartment includes stops for engaging

the insert when the insert is positioned within the compartment, to prevent the insert from sliding out of the compartment.

20. An assembly as defined in claim 19, wherein the stops of the support tray engage a first end of the insert when the insert is positioned within the compartment.

21. An assembly as defined in claim 1, wherein the support tray includes first and second opposing ends, a top surface extending between the first and second opposing ends and having a compartment extending from the first end for receiving the insert, and wherein the top surface of the support tray includes an elongated channel extending from the second end of the support tray, and a calibration strip is received in the elongated channel of the support tray.

22. An assembly as defined in claim 1, wherein the support tray includes first and second opposing ends, a top surface extending between the first and second opposing ends and having a compartment extending from the first end for receiving the insert, and the support tray includes a land extending from the first end and having a lip for catching fluid leaking from the insert when the insert is positioned in the compartment.

23. An assembly as defined in claim 1, wherein the support tray includes a side wall having a notch for detection by another detector of the liquid sample inspection apparatus when the support tray is inserted into the apparatus.

24. An assembly as defined in claim 1, wherein the support tray includes a cam surface for opening a door of the liquid sample inspection apparatus when the support tray is extended from the apparatus and closing the door when the support tray is retracted into the apparatus.

25. An assembly as defined in claim 24, wherein the support tray includes a side wall and the cam surface extends from the side wall.

26. A system including the tray assembly of claim 24, and further including a liquid sample inspection apparatus comprising:

an opening into which the tray assembly is retracted and extended;

an inspection location within the opening for receiving the tray assembly;

a door which opens and closes the opening;

a light source for illuminating a liquid sample carried on the tray assembly when the support tray is received in the inspection location; and

a detector for receiving light reflected off the liquid sample from the light source;

wherein the cam surface of the support tray of the tray assembly interacts with the door of the inspection apparatus such that the cam surface opens the door when the support tray is extended from the apparatus and allows the door to close when the support tray is retracted into the apparatus.

27. An assembly as defined in claim 1, wherein the first and the second surfaces of the insert include elongated guides.

28. An assembly as defined in claim 27, wherein the elongated guides comprise grooves.

29. An assembly as defined in claim 28, wherein the insert defines sinks in the elongated guides of the first and the second surfaces.

30. An assembly as defined in claim 1, wherein first and second opposing ends of the insert have different shapes.

31. An assembly as defined in claim 30, wherein the shape of the first end of the insert is rectangular and the shape of the second end of the insert is curved.

32. An assembly as defined in claim 1, wherein the insert is removable from the support tray.

33. A system including the tray assembly of claim 1, and further including a liquid sample inspection apparatus comprising:

an inspection location for receiving the tray assembly;

a light source for illuminating a liquid sample carried on the tray assembly when the support tray is received in the inspection location; and

a detector for receiving light reflected off the liquid sample from the light source.

34. An insert having a first surface adapted to receive a first type of liquid carrier and a second surface adapted to receive a second type of liquid carrier different from the first type of liquid carrier, wherein the first type of liquid carrier comprises a reagent cassette and the first surface of the insert has a recess shaped to receive a first portion of the reagent cassette, and wherein the second type of liquid carrier comprises a reagent strip having a plurality of reagent pads disposed thereon and the second surface of the insert has an elongated channel sized to accommodate the reagent strip.

35. An insert as defined in claim 34, wherein an end wall of the recess of the first surface of the insert is curved to match a curved end wall of the first portion of the reagent cassette.

36. An insert as defined in claim 34, wherein one of a boss and an indent is disposed within the recess of the first surface of the insert, and the reagent cassette has the other of the

boss and the indent, and wherein the indent receives the boss to correctly position the reagent cassette within the insert and prevent the reagent cassette from sliding out of the insert.

37. An insert as defined in claim 36, wherein the boss is disposed within the recess of the first surface of the insert.

38. An insert as defined in claim 34, wherein a second portion of the reagent cassette extends outwardly beyond a first end of the insert.

39. An insert as defined in claim 34, wherein the second surface of the insert has an end wall closing the elongated channel at a second end of the insert, and wherein a top surface of the end wall is white.

40. An insert as defined in claim 34, wherein the first and the second surfaces of the insert include elongated guides.

41. An insert as defined in claim 40, wherein the elongated guides comprise grooves.

42. An insert as defined in claim 40, wherein the insert defines sinks in the elongated guides of the first and the second surfaces.

43. An insert as defined in claim 34, wherein first and second opposing ends of the insert have different shapes.

44. An insert as defined in claim 43, wherein the shape of the first end of the insert is rectangular and the shape of the second end of the insert is curved.

45. A support tray insertable within a liquid sample inspection apparatus, comprising first and second opposing ends, a top surface extending between the first and second opposing ends and having a compartment extending from the first end for receiving an insert, and wherein the compartment includes an end wall having a shape conforming to a shape of an end of the insert and opposing first and second side walls extending from the end wall and having shapes conforming to shapes of sides of the insert.

46. A support tray according to claim 45, wherein the top surface of the support tray includes a sloped surface extending from a center of the end wall of the compartment.

47. A support tray according to claim 45, wherein the side walls include cut-outs for allowing an insert to be grasped when the insert is positioned within the compartment.

48. A support tray according to claim 45, wherein the top surface has an elongated guide extending from the compartment to the second end of the tray.

49. A support tray according to claim 48, wherein the elongated guide comprise a groove.

50. A support tray according to claim 45, wherein the compartment includes stops for engaging the insert when the insert is positioned within the compartment, to prevent the insert from sliding out of the compartment.

51. A support tray according to claim 45, wherein the top surface of the support tray includes an elongated channel extending from the second end of the support tray, and a calibration strip is received in the elongated channel of the support tray.

52. A support tray according to claim 45, wherein the support tray includes a land extending from the first end and having a lip for catching fluid leaking from an insert when the insert is positioned in the compartment.



53. A support tray according to claim 45, wherein one of the side walls has a notch for detection by a detector of the liquid sample inspection apparatus when the support tray is inserted into the apparatus.

54. A support tray according to claim 45, further comprising a cam surface for opening a door of the liquid sample inspection apparatus when the support tray is extended from the apparatus and closing the door when the support tray is retracted into the apparatus.

55. A support tray according to claim 54, wherein the cam surface extends from one of the side walls of the tray.

56. A tray assembly for use with an apparatus adapted to inspect a liquid sample, the tray assembly comprising:

a support tray insertable within an inspection location within the liquid sample inspection apparatus, wherein the support tray includes first and second opposing ends and a top surface extending between the first and second opposing ends and having a compartment extending from an open end at the first end of the support tray to an end wall nearer the second end of the support tray; and

an insert movably supported within the compartment of the support tray and movable between a first position adjacent the end wall of the compartment and a second position adjacent the open end of the compartment, wherein, when the insert is in the first position, the compartment is adapted to receive a first type of liquid carrier adjacent the open end of the compartment, and wherein the insert includes a surface adapted to receive a second type of liquid carrier different from the first type of liquid carrier.

57. An assembly as defined in claim 56, wherein the first type of liquid carrier comprises a reagent cassette.

**58.** An assembly as defined in claim **57**, wherein one of a boss and an indent is disposed within the compartment of the support tray, and the reagent cassette has the other of the boss and the indent, and wherein the indent receives the boss to correctly position the reagent cassette within the compartment, when the insert is in the first position, and prevent the reagent cassette from sliding out of the compartment.

**59.** An assembly as defined in claim **58**, wherein the boss is disposed within the compartment of the support tray.

**60.** An assembly as defined in claim **56**, wherein the second type of liquid carrier comprises a reagent strip having a plurality of reagent pads disposed thereon.

**61.** An assembly as defined in claim **60**, wherein the surface of the insert has an elongated channel sized to accommodate the reagent strip.

**62.** An assembly as defined in claim **61**, wherein the surface of the insert has an end wall closing the elongated channel at a second end of the insert, and wherein a top surface of the end wall is white.

**63.** An assembly as defined in claim **56**, wherein the insert is slidably movable within the compartment of the support tray between the first and the second positions.

**64.** An assembly as defined in claim **63**, wherein side walls of the compartment include channels and sides of the insert include rails received in the channels.

**65.** An assembly as defined in claim **56**, wherein the insert is pivotally movable within the compartment of the support tray between the first and the second positions.

66. A system including the tray assembly of claim 56, and further including a liquid sample inspection apparatus comprising:

an inspection location for receiving the tray assembly;

a light source for illuminating a liquid sample carried on the tray assembly when the support tray is received in the inspection location; and

a detector for receiving light reflected off the liquid sample from the light source.

67. An assembly as defined in claim 6, wherein the bosses of the insert are of different sizes or shapes.

68. An assembly as defined in claim 37, wherein the bosses of the insert are of different sizes or shapes.

69. An assembly as defined in claim 59, wherein the bosses of the insert are of different sizes or shapes.